

WHAT IS CLAIMED IS:

1 1. A method for providing full-featured Voice-over Internet Protocol (VoIP)
2 telephony service, comprising the steps of:

3 receiving in a first network a packet-based VoIP call;
4 translating, in the first network, the VoIP call into a Time-Division Multiplexed
5 (TDM) call compatible with a second network having the capability of processing TDM
6 calls and providing at least one feature for the call, the translation including the sub-steps
7 of (1) performing required signal processing protocols in the first network to allow the
8 VoIP call to interact with the first network as if it were performing switch-based
9 processing functions and (2) mapping IP signaling information developed in the first
10 network into a format suitable for processing by the second network;

11 routing the TDM call to the second network;
12 processing the TDM call in the second network to perform processing thereon;
13 and
14 routing the TDM call to its intended destination.

1 2. The method according to claim 1 wherein the translating step includes
2 translating the VoIP call into a bearer portion and a signaling portion.

1 3. The method according to claim 2 wherein the IP signaling information is
2 mapped into a GR-303 format to include performance as well as functional call aspects to
3 allow full-featured processing by the second network.

1 4. The method according to claim 3 wherein the IP signaling information
2 includes on-hook and off-hook line status of customer premises equipment (CPE) on
3 which the packet-based VoIP call originated, and the GR-303 format includes ABCD
4 signaling bits, wherein the line status in the IP signaling information is mapped to an
5 equivalent line status in the ABCD signaling bits.

1 5. The method according to claim 4 wherein the IP signaling information
2 includes power ringing indication, and the GR-303 format includes the ABCD signaling

3 bits, wherein the power ringing indication received via the ABCD signaling bits is
4 mapped to an equivalent power ringing indication in the IP signaling information.

1 6. The method according to claim 1 wherein the first network is a Hybrid-
2 Fiber Coax network.

1 7. The method according to claim 1 wherein the second network is a public
2 switched telephone network.

1 8. The method according to claim 1 wherein the second network features
2 includes CLASS, custom calling, and Centrex features.

1 9. The method according to claim 1 wherein the routing step includes
2 translating the call back to a VoIP call if the destination lies in the first network.

1 10. A method for providing full-featured Voice-over Internet Protocol (VoIP)
2 telephony service, comprising the steps of:

3 receiving in a first network a packet-based VoIP call and non-voice data packet

4 separating the non-voice packets from the VoIP call;

5 routing the non-voice packets to a data network;

6 translating, in the first network, the VoIP call into a Time-Division Multiplexed

7 (TDM) call compatible with a second network having the capability of processing TDM

8 calls and providing at least one feature for the call, the translation including the sub-steps

9 of (1) performing required signal processing protocols in the first network to allow the

10 VoIP call to interact with the first network as if it were performing switch-based

11 processing functions and (2) mapping IP signaling information developed in the first

12 network into a format suitable for processing by the second network;

13 routing the TDM call to the second network;

14 processing the TDM call in the second network to perform processing thereon;

15 and

16 routing the TDM call to its intended destination.

1 11. The method according to claim 10 wherein the translating step includes
2 translating the VoIP call into a bearer portion and a signaling portion.

1 12. The method according to claim 10 wherein the IP signaling information
2 includes power ringing indication, and the GR-303 format includes the ABCD signaling
3 bits, wherein the power ringing indication received via the ABCD signaling bits is
4 mapped to an equivalent power ringing indication in the IP signaling information.

1 13. The method according to claim 10 wherein the IP signaling information
2 includes on-hook and off-hook line status of customer premises equipment (CPE) on
3 which the packet-based VoIP call originated, and the GR-303 format includes ABCD
4 signaling bits, wherein the line status in the IP signaling information is mapped to an
5 equivalent line status in the ABCD signaling bits.

1 14. The method according to claim 10 wherein the IP signaling information is
2 mapped into a GR-303 format so as to include performance as well as functional call
3 aspects to allow full-featured processing by the second network.

1 15. The method according to claim 10 wherein the first network is a Hybrid-
2 Fiber Coax network.

1 16. The method according to claim 10 wherein the second network is a public
2 switched telephone network.

1 17. The method according to claim 10 wherein the second network features
2 include CLASS, custom calling, and Centrex features.

1 18. The method according to claim 10 wherein the routing step includes
2 translating the call back to a VoIP format if the destination lies in the first network.